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**CLAIMS**

What is claimed is:

1. A method of treating a condition characterized by increased expression  
 10 or activity of laminin 5, the method comprising administering to a  
 subject in need an effective amount of an agent that affects processing  
 of laminin 5 by a BMP-1 related protein.
2. A method of treating cancer, the method comprising administering to a  
 15 subject in need of an effective amount of an agent that affects  
 processing of laminin 5 by a BMP-1 related protein.
3. A method of treating glioma, the method comprising administering to a  
 20 subject in need an effective amount of an agent that affects processing  
 of laminin 5 by a BMP-1 related protein.
4. A method of treating a condition characterized by a neoplastic  
 epithelial cells, the method comprising administering to a subject in  
 need an effective amount of an agent that affects processing of laminin  
 25 5 by a BMP-1 related protein.
5. The method of claim 4, wherein the epithelial cells are selected from  
 the group consisting of squamous cells, keratinocytes, mucosal  
 epithelial cells, gastrointestinal epithelial cells, corneal epithelia of the  
 30 eye, and epithelial cells of the urinary and reproductive tract.
6. A method of treating squamous cell carcinoma, the method comprising  
 administering to a subject in need an effective amount of an agent that  
 affects processing of laminin 5 by a BMP-1 related protein.

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7. The method of claim 6, wherein the squamous cell carcinoma is selected from the group consisting of skin cancer, lung cancer, head cancer, neck cancer, oral cancer, cervical cancer, tongue cancer, gastric cancer, colorectal, throat cancer, cancer of the urinary tract, cancer of the reproductive tract, esophageal cancer, throat cancer, and bronchiogenic carcinoma.

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8. The method of claim 6, wherein the agent affects processing of the  $\alpha 3$  chain of laminin 5.

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9. The method of claim 6, wherein the agent affects processing of the  $\gamma 2$  chain of laminin 5.

10. The method of claim 6, wherein the agent affects processing of laminin 5 by BMP-1.

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11. The method of claim 6, wherein the agent affects processing of laminin 5 by mTld.

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12. The method of claim 6, wherein the agent affects processing of laminin 5 by mTll-1.

13. The method of claim 6, wherein the agent affects processing of laminin 5 by mTll-2.

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14. The method of claim 6, wherein the agent additionally confers an anti-scarring effect.

- 5    15.    A composition for the treatment of a condition associated with  
increased expression or activity of laminin 5, the composition  
comprising an agent that affects processing of laminin 5 by a BMP-1  
related protein and an acceptable carrier.
- 10   16.    A composition for the treatment of squamous cell carcinoma, the  
composition comprising an agent that affects processing of laminin 5  
by a BMP-1 related protein and an acceptable carrier.
- 15   17.    The composition of claim 16, wherein the agent affects at least one  
protein selected from the group consisting of BMP-1, mTld, mTll-1,  
and mTll-2.
- 20   18.    A method of diagnosing the presence of a condition characterized by  
increased expression or activity of laminin 5 in a subject, the method  
comprising:
  - (a)    obtaining a sample;
  - (b)    detecting the level of expression or activity of a BMP-1 related  
protein in the sample;
  - (c)    comparing the level of expression or activity of the BMP-1  
25       related protein in the sample to a standard level of expression  
or activity of the BMP-1 related protein.
- 30   19.    A method of diagnosing the presence of squamous cell carcinoma in a  
subject, the method comprising:
  - (a)    obtaining a sample;
  - (b)    detecting the level of expression of a BMP-1 related protein in  
the sample;

- 5 (c) comparing the level of expression or activity of the BMP-1  
related protein to a standard level of expression or activity of  
the BMP-1 related protein.
20. The method of claim 19, wherein the BMP-1 related protein is selected  
10 from the group consisting of BMP-1, mTld, mTll-1, and mTll-2.
21. The method of claim 19, wherein the sample is a tissue sample.
22. The method of claim 19, wherein the sample is a urine sample.
- 15 23. The method of claim 19, wherein the sample is a serum sample.
24. The method of claim 19, wherein the sample is a blood sample.
- 20 25. A diagnostic kit for use in diagnosing the presence of a condition  
associated with increased expression or activity of laminin 5 in a  
sample from a subject, the kit comprising:
- (a) an anti-BMP-1 antibody reactive with BMP-1 related proteins;  
and
- 25 (b) a labeled reagent capable of forming a complex with a BMP-1  
related protein or with the anti-BMP-1 antibody.
26. A method of screening for an agent that affects the processing of  
laminin 5 by BMP-1 related proteins, the method comprising:
- 30 (a) contacting a sample containing unprocessed laminin 5 with at  
least one BMP related protein and the agent;
- (b) measuring the level of processed laminin 5 in the sample;
- (c) measuring the level of processed laminin 5 in a control sample;  
and

- 5 (d) comparing the level of processed laminin 5 in the sample with  
the level of processed laminin 5 in the control sample.
27. An isolated polypeptide comprising a BMP-1 cleavage sequence, the  
polypeptide comprising the amino acid sequence of SEQ ID NO:1.
- 10 28. An isolated polynucleotide encoding the polypeptide of claim 27.
29. An isolated polynucleotide that is complementary to the polynucleotide  
of claim 28.
- 15 30. An antibody that binds to the polypeptide of claim 27.
31. A method of screening for an agent that affects the processing of  
laminin 5 by BMP-1 related proteins, the method comprising:
- 20 (a) contacting a sample containing at least one polypeptide  
comprising SEQ ID NO:1 with a BMP-1 related protein and an  
agent;
- (b) measuring the level of the polypeptide that is processed;
- 25 (c) measuring the level of the polypeptide that is processed in a  
control sample; and
- (d) comparing the level of the polypeptide that is processed in the  
sample to the level of polypeptide that is processed in the  
control sample.
- 30 32. An isolated polypeptide comprising a BMP-1 cleavage sequence, the  
polypeptide comprising the amino acid sequence of SEQ ID NO:2.

- 5    33.    An isolated polypeptide comprising a BMP-1 cleavage sequence, the polypeptide comprising the amino acid sequence of SEQ ID NO:3.
34.    An isolated polypeptide comprising a BMP-1 cleavage sequence, the polypeptide comprising the amino acid sequence of SEQ ID NO:4.
- 10    35.    An isolated polypeptide comprising a BMP-1 cleavage sequence, the polypeptide comprising the amino acid sequence of SEQ ID NO:5.
- 15    36.    A method of affecting laminin 5 expression or activity, the method comprising contacting laminin 5 with an effective amount of an agent that affects processing of laminin 5 by a BMP-1 related protein.